Amendments to the Claims

The listing of claims will replace all prior versions and listings of claims in the application. An identifier indicating the status of each claim is provided. The following list provides the amended claims with the amendments marked with deleted material crossed out and new material underlined to show the changes made.

Listing of Claims:

1. (Currently amended) A video signal processing system for encoding an encoding bit stream according to characteristics of a decoding bit stream, the encoding and decoding bit streams include a plurality of encoding schemes comprising intra encoding, predictive encoding, and bidirectionally predictive encoding, the video signal processing system comprising:

a storage device utilized for storing data of the decoding bit stream and the encoding bit stream;

a decoder electrically connected to the storage device for decoding the decoding bit stream; and

an encoder electrically connected to the storage device for selecting at least one encoding scheme to encode ~~encoding~~ the encoding bit stream according to [[an]] a current encoding scheme for the decoder to decode [[of]] the decoding bit stream such that the goal of limiting a maximum memory bandwidth required for encoding and decoding is reached ~~,the memory bandwidth needed for a third encoding scheme out of the plurality of encoding schemes being greater than the memory bandwidth needed for any other encoding scheme out of the plurality of encoding schemes, the encoder encoding the encoding bit stream using one of the plurality of encoding schemes except the third encoding scheme when the encoding scheme of the decoding bit stream is the third encoding scheme~~.

2. (Canceled)

3. (Currently amended) The video signal processing system of claim 1 [[2]], wherein when the current encoding scheme for the decoder to decode the

decoding bit stream is bi-directional predictive encoding, the encoder prevents selecting bi-directional predictive encoding to encode the encoding bit stream to prevent bandwidth together used by the encoder and the decoder exceeds the maximum memory bandwidth ~~the memory bandwidth needed for the first encoding scheme is less than the memory bandwidth needed for the second encoding scheme, and the memory bandwidth needed for the second encoding scheme is less than the memory bandwidth needed for the third encoding scheme~~.

4. (Canceled)

5. (Currently amended) The video signal processing system of claim 1 [[4]], wherein when the current encoding scheme for the decoder to decode [[of]] the decoding bit stream is the intra encoding, the encoding scheme for the encoder to encode [[of]] the encoding bit stream is one of the intra encoding, the predictive encoding, and the bidirectionally predictive encoding.

6. (Currently amended) The video signal processing system of claim 1 [[4]], wherein when the current encoding scheme for the decoder to decode [[of]] the decoding bit stream is the predictive encoding, the encoding scheme for the encoder to encode [[of]] the encoding bit stream is one of the intra encoding, and the predictive encoding.

7. (Currently amended) The video signal processing system of claim 1 [[4]], wherein when the current encoding scheme for the decoder to decode [[of]] the decoding bit stream is the bidirectionally predictive encoding, the encoding scheme for the encoder to encode [[of]] the encoding bit stream is the intra encoding.

8. (Original) The video signal processing system of claim 1, wherein the storage device is a memory, and the video signal processing system further comprises a memory interface for controlling access to the memory.

9. (Canceled)

10. (Currently amended) A video signal encoding and decoding method for encoding an encoding bit stream according to characteristics of a decoding bit stream, the encoding and decoding bit streams include a plurality of encoding schemes comprising intra encoding, predictive encoding, and bidirectionally predictive encoding, the video signal encoding and decoding method comprising:

(a) checking [[an]] a current encoding scheme of the decoding bit stream to decide an encoding scheme for encoding the encoding bit stream; and

(b) encoding the encoding bit stream using one of the plurality of encoding schemes such that the goal of limiting a maximum memory bandwidth required for encoding and decoding is reached ~~except a third encoding scheme when the encoding scheme of the decoding bit stream is the third encoding scheme, the memory bandwidth needed for the third encoding scheme being greater than the memory bandwidth needed for any other encoding scheme out of the plurality of encoding schemes~~.

11-13. (Canceled).

14. (Currently amended) The video signal encoding and decoding method of claim 10 [[13]], wherein when the current encoding scheme of the decoding bit stream is the intra encoding the encoding scheme of the encoding bit stream is one of the intra encoding, the predictive encoding, and the bidirectionally predictive encoding.

15. (Currently amended) The video signal encoding and decoding method of claim 10 [[13]], wherein when the encoding scheme of the decoding bit stream is the predictive encoding the encoding scheme of the encoding bit stream is one of the intra encoding and the predictive encoding.

16. (Currently amended) The video signal encoding and decoding method of claim 10 [[13]], wherein when the current encoding scheme of the decoding bit stream is the bidirectionally predictive encoding, the encoding scheme of the encoding bit stream is the intra encoding.

17. (Original) The video signal encoding and decoding method of claim 10, wherein the decoding bit stream and the encoding bit stream are both accessed through the same memory interface circuit corresponding to a memory.

18. (Original) The video signal encoding and decoding method of claim 10, wherein the encoding bit stream is an encoding bit stream corresponding to a picture.

19. (Original) The video signal encoding and decoding method of claim 10, wherein the encoding bit stream is an encoding bit stream corresponding to a block of a picture.

20. (Original) The video signal encoding and decoding method of claim 19, wherein the block is a macroblock.

21. (Original) The video signal encoding and decoding method of claim 19, wherein the encoding scheme of the block is one of the intra encoding, the forward motion compensation encoding, the backward motion compensation encoding, and the bidirectional motion compensation encoding.

22. (Original) The video signal encoding and decoding method of claim 21 further comprising:

encoding the block according to the intra encoding when the encoding scheme of the picture is the intra encoding.

23. (Original) The video signal encoding and decoding method of claim 21 further comprising:

encoding the block according to one of the intra encoding and the forward motion compensation encoding when the encoding scheme of the picture is the predictive encoding.

24. (Original) The video signal encoding and decoding method of claim 21, further comprising:

encoding the block according to one of the intra encoding, the forward motion compensation encoding, the backward motion compensation encoding, and the bidirectional motion compensation encoding when the encoding scheme of the picture is the bidirectionally predictive encoding.

25. (Original) The video signal encoding and decoding method of claim 21, further comprising:

encoding the block according to one of the forward motion compensation encoding, the backward motion compensation encoding, and the bidirectional motion compensation encoding when the encoding scheme of the picture is the bidirectionally predictive encoding.